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DOI:

[10.1016/j.erss.2020.101607](https://doi.org/10.1016/j.erss.2020.101607)

Document Version

Peer reviewed version

[Link to publication record in King's Research Portal](#)

Citation for published version (APA):

Vatansever, A. (2020). Put over a Barrel? "Smart" Sanctions, Petroleum and Statecraft in Russia. *Energy Research & Social Science*, 69, 1-10. [101607]. <https://doi.org/10.1016/j.erss.2020.101607>

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Put over a Barrel? “Smart” Sanctions, Petroleum and Statecraft in Russia

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Abstract

With the rise of “smart” sanctions in international politics, the oil sector of some of the world’s leading oil exporters has emerged as a key target. Russia’s oil sector presents a recent case. Much of the scholarly discourse on sanctions has focused on whether and under what conditions sanctions work as intended. Much less has been the attention on the process through which sanctions are having an impact. This article aims to further deepen our understanding of this less explored area by focusing on a target country’s response. It argues that the statecraft of developing a response to sanctions could have substantial role in determining their impact. The paper provides an in-depth case study of how Russia responded to sanctions on its petroleum industry during the five-year period after 2014. It analyses in detail Russia’s response with respect to three key structural constraints for the oil industry: the tax regime, the industry’s organisational setup, and its chronic technological lag. The response in each area has presented opportunities to neutralise or mitigate the impact of sanctions. The paper highlights the limited extent of the Russian government’s response to this end, and provides possible explanations about its choices.

Keywords

Russia
Russian oil
Sanctions
Smart sanctions
Energy policy

Declarations of interest: none

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1. Introduction

With the rise of “smart” sanctions¹ in international politics, the oil sector of some of the world’s leading oil exporters has unsurprisingly emerged as a key target. Iraq, Iran and Venezuela witnessed their oil industries coming under punitive measures in the past three decades. More recently, in response to Russia’s annexation of Crimea in 2014, its oil industry also emerged as a target of international sanctions.

Russia’s case appears peculiar in several respects, arguably turning the stakes much higher. First, the targeted country has long aspired for being a global power. It stockpiles the world’s largest inventory of nuclear warheads, and has a permanent seat at the United Nations Security Council [1]. Second, it is the largest oil producer ever subjected to sanctions. Third, the Russian leadership is well familiar with energy sanctions as a policy tool—it has frequently launched such sanctions against target countries in the past three decades [2]. Finally, Russia’s international standing and oil have been closely intertwined in the post-Soviet period. Oil revenues have been critical for Russia’s economic revival after 2000 [3]. Oil exports have brought over 3 trillion USD during the Putin era, arguably helping Russia with its military build-up and its growing international reach.²

Much of the scholarly discourse on sanctions has focused on whether sanctions work as intended. A growing strand of literature, particularly oriented towards policy-makers, has focused on the statecraft of designing sanctions [5]. Much less has been the attention on how sanctions actually work. The process through which sanctions are having an impact has remained largely unexplored [6, 7]. Such an

¹ “Smart” sanctions are defined as precision-guided measures, designed to inflict the least damage on the overall population while inducing the targeted government to take the desired action. Their effectiveness is a subject to an extensive debate.

² Author’s calculations, from ([4] 2000-2019 period).

approach, however, could understate the potentially significant and long-lasting implications of sanctions, even if they fail to secure the desired behavior.

This article aims to further deepen our understanding of this less explored area by bringing a new dimension that focuses on a different type of statecraft—a target country’s response. The approach presented here suggests that target states need not be treated as passive actors with respect to sanctions. They can take deliberate action to neutralise or at least mitigate the specific effects intended by sanctions.

The analysis here provides an early attempt to understand what may constitute a “smart response” to “smart” sanctions. This article suggests that the way target states react to sanctions could be as significant as their design. Its underpinning logic is that target states react differently, and this affects whether and how sanctions work. Overall, it aims to draw attention to this significant process that has been widely overlooked.

The paper’s main research objective is to examine Russia’s response to sanctions targeting its petroleum industry since 2014. It sheds light on key policy choices that the Russian leadership has adopted (or failed to adopt) to mitigate the effect of these sanctions. How “smart” has Russia’s response been and what explains the chosen approach? Along its theoretical implications, the paper has the purpose to be highly policy-relevant—a significant, albeit occasionally overlooked goal in energy-related studies [8].

2. Research framework

This article builds on Richard Connolly's distinction of two key concepts in the study of sanctions as a tool of economic statecraft: impact and effectiveness. "Impact" refers to "observable changes in the political and economic landscape of the target country caused by sanctions". "Effectiveness" is about "whether sanctions perform the functions they are intended to perform by the sender(s)" [6]. Overall, impact is a necessary, but not sufficient condition for effectiveness of sanctions. Yet sanctions are highly unlikely to be effective if they have no impact [6].

Based on this distinction, this paper suggests two alternative concepts when evaluating "smart" sanctions. One could think of sanctions in terms of their objectives in two phases. There are "intermediary objectives" and then there are "end goals". The former would ideally help to reach the latter. The intermediary objective is to cause damage to a specific target. Depending on the design of sanctions and the target itself, this damage could take effect immediately or steadily. The underlying assumption here is that the target is not invincible: there is some element of vulnerability. If not, then launching the sanctions will be of little practical value. Sanctions are smarter if they build well on this vulnerability.

By contrast, the end goals of sanctions are all about accomplishing broader policy objectives (i.e. effectiveness). The literature on sanctions typically refers to the following three: coercing the target country to alter its behaviour, constraining its actions and sending its leadership a message that its conduct will not be tolerated [9].

A key step to understand a target country's response is analysing whether and how it takes action to neutralise or mitigate the intermediary objective(s) of "smart" sanctions. Studying this is critical in evaluating the impact and effectiveness of sanctions. A target country that manages to weaken the impact of sanctions could potentially jeopardise their end goals as well. At a minimum, by taking mitigating

actions, it can raise the transaction costs of sender states by prompting them to revise some aspect of the sanctions [10].

Thus, the starting point in studying a target country's response would be to define the intermediary objective(s) of sanctions in clear terms. Next, one can analyse the responses of the target state by presenting them on a continuum. On the one end, a government has the choice of abstaining from any action following the onset of sanctions. This type of a response would keep the target exposed to sanctions as long as they remain active. Alternatively, a government could adopt stopgap measures that temporarily alleviate the concerns raised by sanctions. Such policies would be at the expense of delaying efforts to address the core sources of vulnerabilities exposed by sanctions. As such, opting for stopgap measures could constitute a shortsighted approach—they are not likely to provide lasting solutions and effectively neutralise the sanctions' intermediary objectives. On the other end, the target state may embrace the sanctions as a wake-up call. In this case, its policies would be more comprehensive, necessitating higher upfront costs. They would be aimed at addressing some fundamental (structural) underlying constraints that have contributed to the target's vulnerability.

Analysing the continuum of a target state's responses could contribute to our understanding of what might constitute a “smart” response to sanctions—namely a response that successfully neutralises the intermediary objectives of sanctions. The case study in this article is merely a step in this direction. The analysis here could be further elaborated by developing additional metrics about a larger number of target countries' responses. This would eventually allow building a comprehensive framework on the “smartness” of target states' response as a factor in the effectiveness of sanctions.

Along this theoretical significance, this case study acknowledges several potential limitations. First, the degree of vulnerability of a target state may vary, which may affect the scope of its reaction to sanctions. In a study with a larger sample, this methodological problem could be addressed by developing metrics about vulnerability, whereby a “smart response” would indicate a reaction commensurate with the extent of vulnerability. Second, there is one inevitable uncertainty in the case of sanctions: how long will they last? Thus, the underlying assumption that a comprehensive “wake-up call” response would qualify as “smarter” relates primarily to cases when sanctions are likely to remain for an extended duration. Third, a longer timeframe to analyse a target country’s response to sanctions is likely to generate more credible conclusions on its ability to neutralise sanctions. Finally, assumptions about future global oil demand may skew the assessment of a target state’s response. States are expected to be less concerned with the longer-term impact of their policies on their oil industry if oil demand is to peak sooner. The paper’s underlying assumption, open to be challenged amidst growing public recognition of climate change, is that oil revenues will remain critical for the Russian economy for about at least two decades.

This article adheres to qualitative analysis through an in-depth case study of Russia’s response to “smart” sanctions on its oil industry. It examines the government’s response during the five-year period following the launch of sanctions in 2014. The study identifies an increasingly pertinent geological challenge as a key vulnerability facing the Russian petroleum industry. The analysis shows that augmenting this vulnerability appears the major intermediary objective of the sanctions. To investigate the government’s response to sanctions, the paper examines three structural problems that stand at the core of Russia’s geological challenge: the

tax regime, the oil industry's organisational setup, and its chronic technological lag. Admittedly, addressing any of these structural problems is not a simple task whether or not a country faces sanctions. Yet, in each case, their resolution depends much less on global oil markets than the government's will to take action. The key question is whether sanctions triggered a reaction in these areas. Incidentally, the paper reveals a significant variation in the government's response to the three structural problems in 2014-2019 period. Explaining the key policy choices and the reasons behind the variation in the government's approach appears as an additional objective.

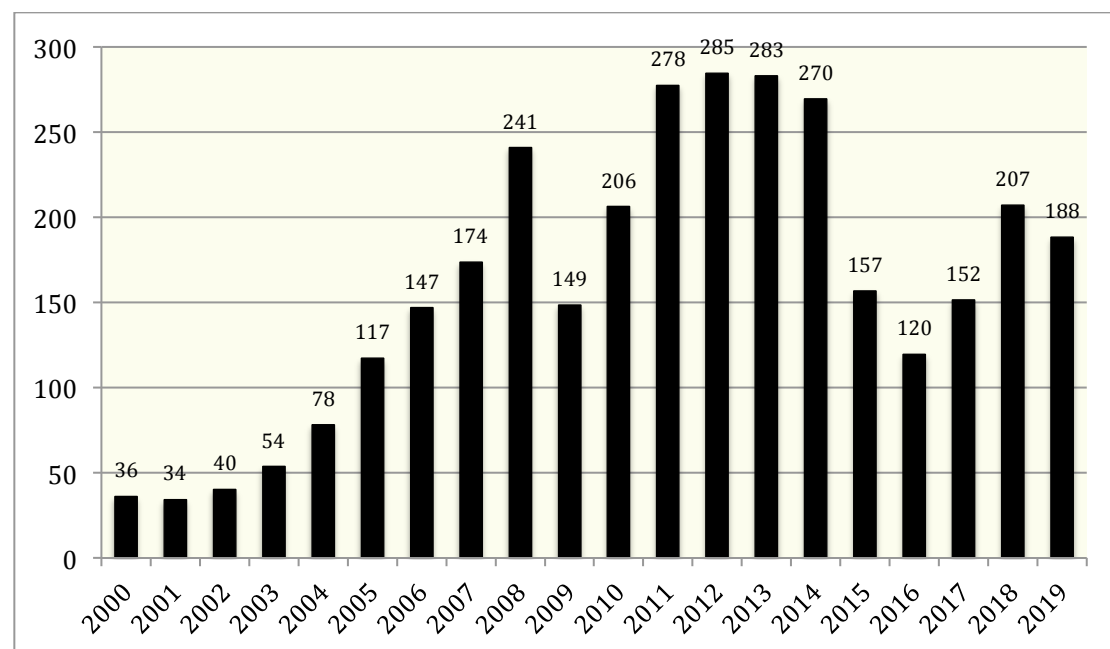
The paper begins with a brief overview of the US/EU energy sanctions, highlighting their intermediary objective. Next, it describes Russia's geological challenge as a key source of vulnerability. Finally, the study examines in detail the three key structural challenges for the oil industry. The analysis is in two parts. The first part establishes a baseline about the state of these structural problems prior to the onset of sanctions. Then, the focus shifts to the evolving approach of the Russian government with respect to each of these three issues.

3. The US/EU “smart” sanctions on Russian oil

Since its annexation of Crimea in 2014, Russia has been subject to a series of sanctions. After several months targeting primarily select Russian individuals, the US and the EU expanded the sanctions to include punitive measures on key sectors: energy, financial services and defense. Within the energy sector, the oil industry has been the main target. During the period of this study, US/EU sanctions were progressively expanded to include new specific targets within Russia, though not

necessarily as a reaction to the Russian government's response to sanctions. Their design has left an inherent uncertainty about their future scope and intensity, leaving room for further measures.

The choice to target the oil sector is indicative that the US and the EU have recognised the special role it plays in the Russian economy. Oil has remained Russia's single most important sector and chief source of wealth, presenting a significant liability should the flow of revenues be negatively affected. In 2013, the year that preceded the sanctions, oil export revenues amounted to 283 billion USD, representing 54 percent of the country's export turnover (see Figure 1). Oil has been crucial for the federal budget as well. During the same year, taxes from oil accounted for 88 percent of Russia's hydrocarbon revenues, which in turn constituted half of the federal budget income [11].



Source: RF Central Bank

Figure 1: Russia's Export Revenues from Crude Oil and Petroleum Products (billion USD)

The US/EU sanctions have brought several restrictions. Western oil majors could not invest in three distinct types of oil fields: unconventional (tight), Arctic offshore and deep offshore [12, 13]. Service companies have not been allowed to share the necessary technology for such fields. Also, US and EU regulations on sanctions have barred leading Russian oil companies as well as banks from accessing international finance, except on short-term basis. This has raised the cost of borrowing for the Russian oil sector significantly above what international peers have to pay [14].

US/EU sanctions evidently points out to one key *intermediary* objective: hamper the capability of the Russian oil industry to sustain its output in the longer run. As examined below (section 3), sanctions caught the Russian oil sector in the midst of steadily deteriorating quality of reserves. The oil industry has faced the urgent need to meet two critical objectives: optimising its declining mature fields and investing in new technologically more challenging deposits. These objectives have been included in the government's draft energy strategy through 2035 [15]. To meet these goals, Russia would benefit from access to foreign capital and technology. Sanctions have been designed on the recognition of this Russian vulnerability. The targeted types of deposits, for instance, have represented the bulk of Russia's prospective "new generation" of oil fields, whose development has emerged necessary to sustain output amidst declining mature fields.

Importantly, the US/EU sanctions have been tailored to target Russia's long-term development rather than its existing output. They have cautiously avoided the risk of disrupting oil supplies from Russia, ostensibly due to potential repercussions for global oil prices. Thus, for instance, mature fields that could potentially be optimised, and new conventional fields in some Russian regions, such as East Siberia,

have not been directly hit by sanctions. Choosing them as targets could have hampered current output.

4. Russia's geological challenge as key vulnerability

The US/EU sanctions were preceded by widely shared gloomy projections about Russian oil. A common take coming from oil managers' statements was that the oil industry was on the verge of reaching its peak output, followed by a rapid decline [16]. Notwithstanding oil managers' possible motivations to sound alarming amidst continuous negotiations with the government over tax reform, many others also expressed quite a pessimistic account of Russia's oil future. In March 2014, the Russian Energy Ministry released an early draft of its updated official Energy Strategy through 2035. Its baseline scenario projected the oil sector remaining nearly stagnant during the following ten years, followed by a gradual decline. An alternative "risk" scenario forecasted an immediate and permanent decline in output [17]. In a special edition focusing on Russia, the International Energy Agency's flagship report *World Energy Outlook 2011* was even more pessimistic, predicting Russian oil would peak before 2015 [18]. This degree of pessimism was reiterated in a report issued in 2014 by the Energy Research Institute of the Russian Academy of Sciences, foreseeing a decline in oil production before 2020 [19].

What drove such rather gloomy forecasts was the steadily declining quality of Russia's oil reserves. On the surface, Russia's oil output was on a long streak of growth, interrupted only briefly in 2008. Yet, one could identify several signs of its deteriorating reserve base. First, the high share of mature oil fields (brownfields) was

revealing: such fields accounted for 84 percent of the oil output at the onset of the sanctions.³ In effect, the Russian oil industry had been able to keep growing thanks to fields launched during the Soviet era. However, starting from the second half of the 2000s, many of these legacy fields, particularly in West Siberia—the heartland of Russian oil industry—had started to decline.

Second, growth in Russia’s oil output became increasingly dependent on developing new oil fields (greenfields). Indeed, a handful of greenfields located in East Siberia accounted for nearly the entire growth in Russia’s oil output between 2009 and 2013.⁴ Typically located further from existing infrastructure, these fields have been comparatively costlier and smaller in size than West Siberia’s mature fields.

Third, data on drilling for oil exploration and development signified additional reasons for concern. Accordingly, Russian oil companies substantially ramped up their development drilling during the decade preceding the sanctions, yet returns kept getting smaller.⁵ The size of Russia’s development drilling market more than quadrupled (in dollar terms) between 2005 and 2013, helping to secure only a marginal increase in output.⁶ After 2010, oil majors started to increasingly rely on more advanced, though costlier, drilling methods to arrest the decline in mature fields. The share of horizontal drilling in oil development had remained steady at around 10 percent during the 2000s, but rose up sharply to 20.8 percent by 2013 [24]. In the

³ Brownfields defined as all fields except, greenfields, projects conducted under Production Sharing Agreements, and condensate [16].

⁴ East Siberian oil grew from 5 million mt in 2009 to 33.1 million mt in 2013. Russia’s total oil output grew by 29.1 million mt during this timeframe [21].

⁵ Measured in million meters, development drilling rose 79.9 percent between 2006 and 2013, while oil production rose by merely 8.9 percent [22].

⁶ Spending for development drilling increased from 2.9 bn USD in 2005 to 13.8 billion USD in 2013 [23].

meantime, the average depth of Russian oil wells continued to get higher, putting an upward pressure on drilling and lifting costs [25].

By contrast, there was no similar upward trajectory in exploratory drilling prior to the sanctions. After reaching a peak in 2007, the amount of drilling experienced a major drop in 2009, and did not recover to its earlier peak by 2013. In effect, oil companies shifted their investments to development drilling at the expense of exploratory drilling [22]. Some oil industry insiders noted that “underinvestment” in exploration constituted the biggest long-term hurdle for the future of Russian oil [26]. Admittedly, Russian oil companies became more efficient in exploratory drilling thanks to adopting more advanced technologies. This allowed the oil sector’s reserve base to grow faster than its output after 2005. Nonetheless, only about 15-20 percent of this growth in reserves came from new fields. The rest was the product of additional exploration in mature regions as well as the oil companies’ re-evaluation of their respective reserve base [26].

In sum, already before the launch of US/EU sanctions, the Russian oil industry was faced with steadily declining mature fields, a growing need to move on to new fields, and production costs rising across the board. Its ultimate challenge was to avert a downturn in Russia’s oil output for as long as possible. Investing in the technologically more challenging deposits, such as in deep offshore, the Arctic offshore and unconventional basis was increasingly voiced as a solution [27]. For this, Russia needed more investments (domestic and foreign) and continued access to advanced technologies. Sanctions clearly set the goal to make this task more burdensome.

5. Structural problems in Russia's oil industry preceding the sanctions

Russia's geological challenge was accompanied by a set of problems that contributed to this challenge, raising further concerns within the oil industry prior to the onset of the US/EU sanctions. This paper labels them as key structural problems whose resolution necessitate a policy response by the Russian state. Unlike the geological challenge, their origin and resolution lies "above the ground" within the Russian government. It is worth devoting attention to each of these structural problems prior to 2014.

5.1 An oil tax regime geared to maximise state revenues

An optimal tax regime would aim to strike a balance between the goal of the state to collect revenues and the interests of the oil industry to make profit. It should also encourage the oil sector to invest in its long-term development. Finding such a balance is never a simple task, particularly when the oil industry goes through geological challenges that put upward pressure on costs.

A key feature of Russia's oil tax regime has been its propensity to prioritise tax revenues at the expense of long-term investments in the sector. The Russian government fundamentally overhauled the oil tax at the start of Putin's first presidency [28]. Its strength was its simplicity: designed to track mainly the oil companies' output and gross revenues, the tax model left little room for tax evasion — a perennial problem during the 1990s. Simplicity, however, came with a major drawback. The model did not take into account the divergent costs across Russia's

various fields. Oil companies were left with little incentive to undertake costlier projects. They were inclined to delay investing in new fields while shutting down highly depleted fields where operating costs were typically higher.

After 2007, amidst growing pressure by the oil industry, the Russian government adopted a highly cautious approach to reform this tax model. Recognising the growing urgency for investing in new oil fields, the government provided series of ad hoc tax holidays for select oil deposits. Starting with operators of select fields in East Siberia, the list of beneficiaries expanded gradually to include some of Russia's most depleted fields, deposits with extra heavy oil and unconventional oil [29]. By 2013, 27 percent of Russia's oil output was benefiting from some form of tax relief [30].

On the surface, this cautious approach to tax reform paid off. After a shocking drop in 2008, Russia's oil output resumed growth and remained on an upward trajectory during the subsequent period, prior to the onset of sanctions. The tax breaks helped to bring new oil from East Siberian greenfield projects and slowed down the decline of mature fields [16].

Nonetheless, the government's approach to tax reform was indicative of a broader preference to prioritise budgetary revenues rather than addressing the oil industry's concerns head on. Despite tax exemptions, the overall tax burden on the oil sector remained fairly high in international standards [31]. Importantly, the government's tax approach defied international trends. Namely, the broader tendency around the world in the past four decades has been a gradual shift towards a tax model that targets oil companies' costs and profitability rather than their gross revenues [30]. Instead of a comprehensive approach to reform, the Russian leadership opted in favour of ad hoc solutions in the form of a growing number of exemptions. Despite

some progress, the tax regime remained overall disconnected from project profitability [32]. Also, ad hoc exemptions brought a new degree of uncertainty for investments. They proved easy to rollback when the Finance Ministry deemed them to be overly generous [33].

5.2 The oil sector's organisational setup as a constraint for long-term investments

The organisational setup of Russia's oil industry has presented another set of constraints for its development. Three key aspects deserve attention: a lack of a level playing field that limits the opportunities for small and independent oil companies⁷; primacy assigned to select state-dominated oil majors; and a distinctly limited role for foreign oil producers. Problems in each of these areas constrained the investment opportunities in Russia's oil sector prior to sanctions, contributing to its geological challenge and increasingly dim production prospects.

The Russian oil industry has been dominated by a handful of large vertically integrated companies (VICs). Former Russian Energy Minister Yuri Shafranik has described this as a Soviet legacy, which, despite changes in ownership, has remained fundamentally intact during the 1990s and 2000s [35]. In 2013, only 9.5 percent of Russia's oil output came from so-called independent producers [36].

The minor role played by independent/small oil companies has been increasingly at odds with Russia's geological realities. International practice indicates that such companies are more likely to optimise mature and smaller fields [37]. They

⁷ Russian legislation defines independent oil producers as those that are not part of VICs, not state-owned, not operating under Production Sharing Agreements (PSAs) and lack significant refining capacity [34].

can also be highly innovative in overcoming new geological challenges as illustrated in the case of unconventional oil development in the US [37]. Russia could have benefited from a policy ensuring a greater role for such players amidst its geological shifts.⁸

The growing emphasis of the Russian leadership on state-led development in the oil sector has been another aspect of the organisational setup that has arguably proved costly for the industry as a whole. The origin of this approach, which has hampered the level playing field in the sector, goes back to Putin's first term as president. State-controlled Rosneft steadily emerged as Russia's national oil champion [39]. It acquired several of its competitors between 2004 and 2013. Financially overstretched with these acquisitions, Rosneft turned into one of Russia's most indebted companies [40].

In 2008, a new bill regulating investments in so-called strategic sectors set exclusive rights for state-owned companies in developing larger onshore fields (containing oil above 70 million tons) and all new offshore fields [41]. State-controlled Rosneft and Gazprom (and by extension, its oil subsidiary Gazprom Neft) acquired exclusive rights. Other companies, domestic or foreign, could only set their foot on such fields through partnering with them. As the two state-controlled companies acquired their licenses for new fields, this prompted concerns about their financial capabilities to develop them on schedule [42, 43]. Some critics accused Rosneft for abandoning potentially productive older fields, curbing the oil sector's potential growth [44].

⁸ Incidentally, independent/small producers proved crucial in ensuring Russia's enduring growth in oil production—their share in the total output rose from 5.6 percent to 9.5 percent between 2008 and 2013, respectively. This outcome was not a product of a shift in the government's approach towards these companies, as they continued to face the same disadvantages they had encountered since the 1990 [38].

Finally, a peculiar feature of Russia's oil development model under Putin has been the limited involvement of foreign oil companies. This has also curbed their potential contribution to utilising the country's reserve base. In the early 1990s, Russia had emerged as the new frontier for international oil companies. But foreign majors were soon braced for disappointment. Foreign involvement in Russia's oil industry remained limited during the 1990s, and it got even more difficult over time to break in its oil business [45, 46]. The 2008 bill on investments in strategic sectors set further limits.

Despite their rather limited role in Russia's oil production, foreign companies had increasingly emerged at the spotlight before the onset of the West's sanctions. Amidst growing attention to more challenging oil fields, such as the Arctic offshore and unconventional oil in the Bazhenov basin, Russian oil companies launched series of partnerships with foreign majors. Their technological edge had raised hopes for deepening their involvement in Russia [47].

5.3 Russia's technological lag as a challenge for the oil sector

Russia has been a leading oil producer for well over a century, yet its petroleum industry has chronically suffered a technological lag. This created two key challenges prior to the onset of the US/EU sanctions. First, it made the industry vulnerable to potential disruptions in transfer of foreign technology. Incidentally, the US and the EU designed their sanctions to target the transfer of technology precisely in type of fields where Russian oil majors had set their sights for future growth. Many of the deals signed with foreign partners had to be put on hold due to sanctions [48].

Second, it is possible to argue that Russia's technological lag impeded the oil industry's ability to explore and develop the more technologically challenging oil fields. In turn, deprioritising such fields weakened the necessity to develop own advanced technologies. It is worth asking why it took so long for Russian oil companies to turn their attention to deeper offshore and Arctic offshore fields. Admittedly, this was in part due to Russia's extensive and diverse reserve base—there was less urgency to move to such challenging and expensive fields. Yet, the lack of own technological capabilities to explore and develop such fields also played a likely role [49].

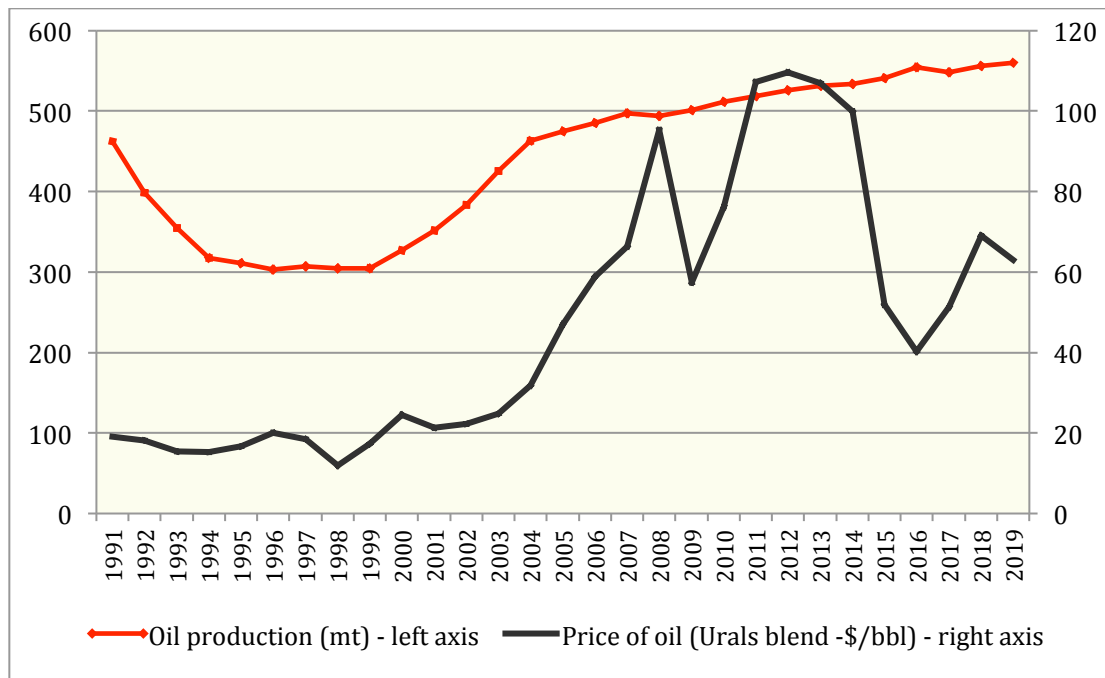
In essence, when Russian oil majors turned their attention to the “new generation” fields during the final years preceding the sanctions, the industry remained unprepared to deal with potential restrictions on foreign technology. Accordingly, in 2014, the extent of dependence of the Russian oil sector on foreign technology remained highly critical. Russia's entire oil services sector had tripled in size (in dollar terms) between 2005 and 2014, allowing for the rise of a growing number of domestic producers of oil equipment [50]. Yet, foreign oil services companies maintained their edge in securing the most advanced technologies for the Russian market [51]. They dominated many key market segments such as well surveys, offshore development, oilfield chemicals and advanced hydraulic fracturing [52]. Digitalisation and information technologies constituted additional areas where Russia depended on imported know-how [53]. In 2014, the Ministry of Industry and Trade determined that the level of dependence on imports remained at around 80 percent in “critically” significant parts of the oil and gas industry. In select areas, such as in offshore and unconventional oil development, dependence was even higher [54].

6. Responding to structural constraints after 2014

As sanctions aimed to weaken Russia's ability to address its geological challenge, this section analyses the government's policy response in three critical areas that could help neutralise or mitigate the effect of sanctions. It starts with an overview of key tendencies in the oil sector, followed by a detailed review of the policy response.

6.1 The evolution of the oil sector after sanctions

The US/EU sanctions started targeting Russia's oil sector by the fall of 2014. As a further complicating factor, a substantial drop in oil prices coincidentally accompanied these sanctions. During the following five years, oil prices stayed far below the levels reached in the 2010-2014 period (Figure 2). While sanctions on the transfer of technology were designed to have an impact in the longer run, financial restrictions were expected to hit Russian oil sector immediately [55, 56].



Source: RF Central Bank, Rosstat

Figure 2: Russia's Crude Oil Production and Oil Prices since 1991

Given this context, in a way it has been bewildering that key headline figures for Russian oil remained distinctly positive. The industry's annual output set one post-Soviet record after another. It kept expanding every year except in 2017 when Russia adhered to a deal with OPEC to voluntarily cap production (Figure 2). Growth in development drilling was another significant achievement: Russian oil companies were drilling 33 percent more in 2018 compared to 2013 [57].

There are several factors that explain why Russia's oil sector has managed to weather the impact of sanctions and lower oil prices, at least in the short and medium-term. First, as the Russian ruble lost about half of its value in 2014, this has provided a financial cushion for oil companies, whose costs are denominated predominantly in the national currency, while export revenues accrue in dollars [58]. Second, the design of the oil tax regime compels the federal budget to absorb most of the impact in the event of declining oil prices [59]. Third, some differences in the design of US and EU

sanctions, along a lack of uniform enforcement have also helped. For instance, EU sanctions have included a “grandfathering” provision allowing projects launched before the sanctions to continue. Regulators in Brussels and EU-member states have remained less stringent in enforcing the sanctions compared to US regulators [60]. Thus, EU-based international majors such as BP, Equinor (formerly Statoil) and ENI have been able to maintain and even expand their existing partnerships in Russia after 2014, albeit within some limits [61]. Finally, Russian oil majors have managed to circumvent some of the financial constraints brought by sanctions. Though sanctions set restrictions on access to foreign funds, Russian oil companies have developed multiple responses. They have intensified relations with Asian companies as investors and a source of funding in exchange for oil supplies. Similar funding arrangements for “continuous” short-term funding have been made with foreign oil traders [62].

Yet, this apparent resilience of the Russian oil sector should not conceal some of the intrinsic longer-term challenges it has only postponed to address. Warning signs preceding the sanctions have persisted. The deteriorating quality of the reserve base has remained as a major challenge. The flow rate of Russian oil wells has deteriorated further [63], while the depth of both vertical and horizontal wells has been getting higher, adding to production costs [22]. Likewise, sustaining production has hinged on adopting increasingly more advanced and typically more costly technologies. For instance, the share of horizontal drilling in oil development has kept rising, reaching 48 percent by 2018 [64, 65].

In the existing context, Russian oil companies have evidently prioritised near-term growth in production at the expense of dealing with longer-term challenges. Namely, the oil industry has largely diverted investments from sanction-affected fields (such as the Arctic offshore and unconventional deposits) to regions with

established production and infrastructure. Russian oil industry insider Sergey Vakulenko describes aptly the oil companies' response: "why go after higher-hanging fruit when there are lower ones available right now [66]?" Also, Russian oil companies have maintained their focus on development drilling at the expense of exploration drilling. Investments in the latter dropped sharply in 2015 and it took two years to recover to the levels reached in 2014 [22]. Incidentally, government funding for exploration also declined sharply between 2014 and 2017 [67].

It might be too early to say whether the West's sanctions are effectively meeting its key intermediary objective—curbing Russia's ability to develop its "next generation" fields. Yet, as the rest of the paper argues, the Russian leadership has shied away from developing a thorough approach to addressing key structural problems that would affect the oil industry's longer-term growth potential. Evidently, the Russian government has remained focused on ensuring the short and mid-term growth in the oil industry, while inadequately helping it to address its longer-term geological challenges and build lasting resilience to sanctions. In a way, oil producers have responded in a similar fashion prioritising near-term growth.

6.2 The tax regime

The Russian government undertook some significant changes in the oil tax regime after 2014. Yet, its approach could at best be characterised as one guided by a preference for incremental reform—the approach that preceded the sanctions. There is no evidence to suggest that sanctions prompted a wake-up call for the leadership to

reconsider its tax policy, paving the way to a more substantial overhaul. What explains the government's approach?

Changes in Russia's oil tax regime followed three distinct tracks after 2014. First, the government continued to use tax exemptions as its primary tool to spur investments. By 2018, 51 percent of Russia's oil fields and 43 percent of its oil production were benefiting from some form of tax relief measures [68]. Second, the Russian government undertook several "tax maneuvers" to address market distortions created by the tax regime set in the early 2000s. Their main target has been to gradually lower the significance of export duties in the oil sector's tax bill. The first steps for this process were initiated well before the sanctions [69]. Third, in 2018, the Russian government finally opted to experiment with profit-based taxation by introducing the Tax on Supplementary Income (TSI). The new tax has been designed to take into account projects' costs and profitability. Yet it has been applicable to only a handful of select pilot projects until the government re-evaluates its effectiveness [70].

In effect, the government's tax approach has focused on promoting near-term growth rather than tackling the oil industry longer-term geological challenge. Indeed, this approach has proven fruitful. Prioritising tax exemptions has helped to prevent a decline in Russia's oil output, potentially delaying its peak. Oil companies have ramped up investments in many of the field categories benefiting from tax relief [71]. While investments in the three types of fields prohibited by sanctions have remained limited overall, Rosneft and Gazprom Neft have made some progress in allocating more funds for the Arctic offshore [72].

Yet, the chosen approach has signified several problems for the longer-run. First, relying on tax relief measures has helped to postpone a transition to a truly

profit-based tax regime that could have affected the entire oil sector, incentivising investments in areas such as new fields, optimisation of old deposits, and new technologies. Limited growth in investments for oil exploration (as opposed to oil development) and slow progress in bridging Russia's technological gap (see 6.4) could be considered as the products of this approach. Second, the ad hoc nature of tax exemptions has prompted concerns about a lack of a level playing field. Industry insiders have accused Rosneft of getting preferential treatment [73]. Third, having no clear yardstick about their effectiveness, the Russian government has periodically rolled back exemptions, nurturing unpredictability for investors. Finally, the vast growth in the number of projects benefiting from tax relief has also created a major administrative burden. Thus, government proposals for new reform measures have never subsided, further exacerbating uncertainty for oil investors.

There are several possible explanations for the Russian leadership's choice. First, one needs to question why the government has been able to keep expanding tax exemptions in the first place. The comparatively high tax rate on the oil industry has provided the government a room for manoeuvring. Russia's diverse set of fields, some easier to develop and at lower costs than others, has also allowed the state to be selective in choosing its targets for tax relief, while keeping the tax bill high for others. The availability of this option is in fact at the core of Russia's puzzlingly continuous growth that has defied pessimistic forecasts. Yet, as former Deputy Energy Minister Vladimir Milov warns, this tool cannot be applied infinitely due to growing costs for the budget [74]. The government's heavy reliance on it is indicative of its preference of stopgap solutions.

Second, the government's choice to delay a transition to a profit-based tax regime reflects its aversion to risks for its federal budget. Oil remains as the chief

source of revenue, while comprehensive oil tax reform bears the risks of high upfront costs that clash with the government's financial priorities. The fiscally cautious Finance Ministry has remained a critical actor in the process of tax reform, pushing back against risky proposals emanating from branch ministries and the oil industry [75].

Finally, the choice may also reflect the state's preference for perpetuating an interventionist approach to guiding the oil industry. Rather than relying on the inbuilt flexibility of a sector-wide profit-based tax regime, the Russian government has established a manual supervision over tax relief measures. This has empowered state agents such as the Finance Ministry

6.3 The organisational setup

The Russian leadership abstained from significant changes in the organisational setup of the oil industry in the aftermath of the US/EU's energy sanctions. This approach perpetuated some of the limitations the industry faced prior to the sanctions. Meanwhile, the government avoided measures that could have further magnified these limitations.

First, the Russian government took no action to address the existing disadvantages for smaller players. Industry insiders have noted that the government's fiscal and licensing policy for the oil industry remained fixated on the needs of the VICs [76]. Numerous changes in the tax code between 2014 and 2018 provided no special treatment for smaller/independent producers. In fact, some tax measures, such as refunds for refining, benefited only the oil majors [77].

Second, the Russian government did not undertake any significant steps to alter the organisational setup of the oil industry in terms of its ownership. Two key changes revolved around Rosneft. The oil major continued its buying spree by acquiring the relatively smaller VIC Bashneft. Meanwhile, the state reduced its shares in Rosneft to a mere majority, indicating that the Russian oil sector might be on a trajectory that is more complicated beyond a gradual nationalisation. Overall, the Russian leadership abstained from triggering another major shakeup in the oil sector.

It is unclear whether the Kremlin opted to maintain the status quo model of ownership due to its aversion to risks or the proven benefits of the model itself. Within the existing setup of coexisting private and state-owned oil majors since the mid-2000s, the sector has demonstrated its ability to maintain continuous growth. One of its key strengths has been the presence of multiple VICs. This distinguishes Russia from several oil-producing nations where a national oil company dominates the entire sector. The presence of multiple players has ensured some degree of competition, as well as diversity in investment strategies in surmounting challenges. In the meantime, it is possible to suggest that the Russian leadership avoided undertaking a new shakeup because this could be a risky move amidst sanctions and relatively lower oil prices.

Importantly, the Russian government upheld the privileged role of state-owned companies despite its increasingly obvious costs. Accordingly, it soon became clear that the amount of licenses awarded to state-controlled Rosneft and Gazprom for offshore fields were beyond their capabilities. Sanctions provided them a convenient pretext to request extensions to fulfil the obligations set in their licenses [78]. Rather than redistributing these licenses to other players, the government opted to grant the requested extensions.

Third, the government's approach to foreign oil companies as investors in Russian oil represented another area of continuity. The sanctions disrupted some of the established partnerships between foreign majors and Russian companies for developing offshore and unconventional oil. Yet, foreign companies maintained their cooperation in areas not subject to sanctions, and even made some new acquisitions, such as BP's purchase of a stake in Rosneft's Taas-Yuryakh field in 2015. Also, the Kremlin adhered to the 2008 law regulating investments in strategic sectors, introducing only minor amendments [79]. It is noteworthy that the Russian state did not opt to reciprocate to Western energy sanctions by establishing further limits on the investments of oil companies from the US and the EU.

In the meantime, non-Western (mainly Chinese) oil companies and service providers found growing opportunities in the Russian oil market. Their rising role has reflected the steadily growing diversity of foreign players in Russia's oil sector. While this trend preceded the sanctions, attracting non-Western partners to Russia's oil industry has constituted a significant piece of Moscow's response to sanctions. In effect, Russia's has aimed at reaching out to what Bryan Early describes as third-party states that can act as "sanction busters" [80]. In this context, a "pivot to Asia" has partly alleviated restrictions on access to technology and capital. Nonetheless, the involvement of non-Western companies in Russia's oil upstream has remained relatively modest, while their technology is yet to prove its viability in developing the new generation oil fields [81].

What possibly explains the Russian leadership's notable lack of determination to alter the organisation setup of the oil industry is the potentially high, though uncertain upfront cost of a major shakeup. Furthermore, these costs could be fairly extensive for multiple stakeholders. The political leadership would need to invest

political capital to usher major changes, and the state budget may well lose out if these changes do not secure oil growth. Existing VICs could lose out to rising independents and major changes in ownership—a likely cause for them to defend the existing organisational setup.

6.4 Bridging the technological gap

The Russian leadership took numerous actions to address its technological gap following the launch of the West’s sanctions. In effect, sanctions have been a wake-up call to address this particular structural problem. Yet, the effectiveness of these actions has remained limited and their true impact is yet to be proven.

At the centre of government’s response to sanctions has been its emphasis on “import substitution” in the oil sector. Unlike in the case of the other two structural issues examined so far, “import substitution” has featured directly in the Russian leadership’s rhetoric on Western sanctions. It appeared as a central theme of Putin’s annual address to the nation at the end of 2014, and has remained a recurring element of his speeches [82]. Both the Ministry of Industry and Trade and the Ministry of Energy were quick to announce plans and targets for an ambitious policy to alleviate the oil industry’s dependence on foreign equipment [83]. They set up an intergovernmental committee to coordinate progress, engaging oil companies and tracking their progress in adopting Russian-made technologies [84]. Furthermore, the Russian government provided some financial support—14 billion rubles between 2014 and 2018—to promote investments in locally made oil equipment [53]. It adhered to extrabudgetary funds as well. For instance, President Putin’s instructed

Rosneftgaz to channel dividends for the development of the Zvezda shipyard in the Far East [85]. Under a consortium led by Rosneft, the shipyard project has set the goal of enhancing Russian capabilities for offshore drilling [86].

While the precise extent of Russia's progress in import substitution does not appear clear even to Russian government officials [84], the oil industry clearly took some steps to reduce its dependence on foreign equipment. Many Russian oil majors swiftly announced corporate programs setting targets on using locally produced equipment. Reportedly, the share of foreign equipment has been steadily dropping after 2014 [87]. Russian oil service companies have regained some of the market share they lost to foreign service providers since the early 2000s [88]. Additionally, Russian oil producers have expanded their commercial ties with oil service companies from Asia—China in particular [89, 90].

The government's proactive approach on alleviating Russia's technological lag in the oil industry is striking when compared to how it handled other structural problems examined so far. What differentiates this case is that sanctions brought the risk of further deepening Russia's technological lag had the leadership opted to take no action at all. By contrast sanctions could not directly exacerbate problems related to the tax regime and the organisational setup. There is an additional factor that deserves attention. Drezner suggests that sanctions could create rent-seeking opportunities, which target governments may wish to employ [91]. Indeed, import substitution appears to have distributional consequences that are potentially beneficial for the industry and the state. Along the rising complexity of the Russian oil fields since the early 2000s, oil rents had been gradually migrating from oil producing companies to oil services companies [16]. Rising costs have signified more

opportunities to capture rents from oil producers. In this context, import substitution serves to divert increasingly important rents to domestic service providers.

And yet, adopting a proactive approach has not been sufficient to deliver the desired results. Import substitution in areas relating to advanced technologies—precisely the areas affected by sanctions—has failed to meet expectations. The domestic oil services sector has not been in a position to provide Russian oil companies the advanced equipment needed to develop unconventional and deep offshore fields [92].

Russia's import substitution policy has clearly faced numerous constraints in meeting key targets so far. The drop in oil prices after 2014 prompted Russian oil majors to scale back their purchase of equipment, leading to the bankruptcy of many local service providers [23]. As noted earlier, Russian oil companies opted to delay investments in the type of fields under sanctions, dampening demand for advanced technologies. Low oil prices also contributed to this outcome. Equipment for fields not affected by sanctions has been freely available to import, further impeding progress in import substitution.

Some of the reasons for import substitution progressing only slowly relate to the broader question about why Russia ended up with a technological lag to begin with. The Russian oil industry has traditionally allocated few resources for research and development, and delivered few patents compared to international oil majors and service companies [84]. Instead, the preference has been for importing advanced technologies. Intellectual property rights have remained weak [93], while the government has delayed identifying and approving a guideline for certifying clear standards for Russian made oil technologies [94]. In effect, the Russian government

has strived to bridge the oil sector's technological gap without adequately addressing underlying constraints that brought this gap.

Arguably, the two structural problems examined earlier have also impeded progress in import substitution. According to Lukoil's chairman Vagit Alekperov, the tax regime, failing to properly account for costs, has not sufficiently encouraged investments in new technologies [95]. Likewise, the limited role of small/independent oil producers in the petroleum sector has dampened demand for Russian equipment. Reportedly, such companies have preferred to rely almost exclusively on cheaper Russian-made equipment, and have been critical source of demand for domestic oil services [96].

7. Conclusions

Russia's oil sector has confronted an increasingly pertinent geological challenge, which international sanctions have aimed to further augment. Three key structural constraints have stood at the core of this challenge: the oil tax regime, the oil industry's organisational setup, and its chronic technological lag. Each area has presented opportunities for the Russian leadership to develop policies that would neutralise or mitigate the impact of sanctions. The paper has provided an in-depth review of Russia's statecraft in developing a response as a target state.

The Russian government has undertaken a mixed set of responses since the onset of sanctions. It has abstained from any significant changes with respect to the oil sector's organisational setup. In the case of the oil tax regime, its preference has been to reform it through series of ad hoc stopgap measures in the form of

proliferating exemptions. By contrast, it has launched a highly proactive import substitution policy to address the oil sector's technological lag.

The paper has associated the variation in the government's response with two key factors. First, when sanctions brought the risk of further exacerbating a structural problem, the government has emerged more likely to consider sanctions as a wake-up call for a proactive policy. Second, potential distributional consequences have also been crucial in shaping the government's policy choice. Addressing Russia's technological gap through import substitution has had clear distributional benefits. By contrast, launching sweeping changes in the tax regime and the organisational setup of the petroleum industry has borne potentially unpredictable costs for the state and the industry itself.

This paper has highlighted the overall limited extent of Russia's response to neutralise the impact of sanctions. Russian leaders have recognised the need to take some action given the vital role the oil industry plays in the country's political economy. However, sanctions have hardly been a wake-up call. The Russian government has abstained from undertaking a comprehensive approach to address multiple structural problems in the oil sector. Steps taken to bridge the technological gap have been significant, though it may be too early to determine how they might affect the oil industry's longer-term development. Furthermore, their effectiveness has been compromised by the lack of a more comprehensive response that address the additional structural constraints facing the oil sector. Hence, if one would place Russia's response to sanctions on the continuum suggested at the start of this paper, it has been far from "smart".

Why some countries are more likely to respond "smart" to sanctions, while others may be inclined to miss the opportunity? Further research based on cross-

country and cross-sector comparisons could investigate the sources of variation in target states' responses to sanctions.

Acknowledgments

The author is grateful to Andreas Goldthau, University of Erfurt and Adam Stulberg, Georgia Tech, for their valuable comments on earlier drafts of the paper. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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